

Mathematics

Practice at 3 Levels ●●●

Meets CCSS, state, and NCTM standards

Supports all learners

120+ pages of:

- Instant mini-lessons
- On-the-fly assessments
- Computation practice
- Word problems



		Units 1–4	Units 5–14	Units 15–21	Units 22–23
Common Core Grade-Specific Standards Grade 2 Overview					
Operations & Algebraic Thinking					
• Represent and solve problems involving addition and subtraction.	✓				
• Add and subtract within 20.	✓				
• Work with equal groups of objects to gain foundations for multiplication.	✓				
Number & Operations in Base Ten					
• Understand place value.		✓			
• Use place value understanding and properties of operations to add and subtract.		✓			
Measurement & Data					
• Measure and estimate lengths in standard units.			✓		
• Relate addition and subtraction to length.			✓		
• Work with time and money.			✓		
• Represent and interpret data.			✓		
Geometry					
• Reason with shapes and their attributes.					✓
Mathematical Practices					
• Make sense of problems and persevere in solving them.	✓	✓	✓	✓	✓
• Reason abstractly and quantitatively.	✓	✓	✓	✓	✓
• Construct viable arguments and critique the reasoning of others.	✓	✓	✓	✓	✓
• Model with mathematics.	✓	✓	✓	✓	✓
• Use appropriate tools strategically.	✓	✓	✓	✓	✓
• Attend to precision.	✓	✓	✓	✓	✓
• Look for and make use of structure.	✓	✓	✓	✓	✓
• Look for and express regularity in repeated reasoning.	✓	✓	✓	✓	✓



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Printed in Guangzhou, China.
 4401/0812/CA21201128

ISBN: 978-1-61269-197-8

Visit our website at www.newmarklearning.com.

Common CORE Mathematics

Practice at 3 Levels ●●●

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Using This Book

What Is the Common Core?

The Common Core State Standards are an initiative by the states to set shared, consistent, and clear expectations of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be rigorous and pertinent to the real world. They reflect the knowledge and skills that our young people need for success in college and careers.

What Are the Intended Outcomes of Common Core?

The goal of the Common Core Standards is to facilitate the following competencies.

Students will:

- demonstrate independence;
- build strong content knowledge;
- respond to the varying demands of audience, task, purpose, and discipline;
- comprehend as well as critique;
- value evidence;
- use technology and digital media strategically and capably;
- come to understand other perspectives and cultures.

What Does This Mean for You?

If your state has joined the Common Core State Standards Initiative, then as a teacher you are required to incorporate these standards into your lesson plans. Your students may need targeted practice in order to meet grade-level standards and expectations and thereby be promoted to the next grade. This book is appropriate for on-grade-level students as well as intervention, ELs, struggling readers, and special needs. To see if your state has joined the initiative, visit the Common Core States Standards Initiative website to view the most recent adoption map: <http://www.corestandards.org/in-the-states>.

What Does the Common Core Say Specifically About Math?

For math, the Common Core sets the following key expectations.

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

How Does Common Core Mathematics Help My Students?

- **Mini-lesson for each unit** introduces Common Core math skills and concepts.

Unit 9
Add Two-Digit Numbers

Standard
Number & Operations in Base Ten
Use place value understanding and properties of operations to add and subtract.
2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.

Model the Skill
Hand out base-ten blocks and write the following problem on the board.
 $41 + 26 =$
♦ **Say:** Let's add these amounts by first joining the tens. How many tens are there in all? (6) What is $40 + 20$? Have students write the sum. (60) **Say:** Let's add the ones. How many ones are there in all? (7) What is $1 + 6$? Have students write the sum. (7) **Say:** Now add the sum of the tens and the sum of the ones. What is the total sum? (67) Then write another problem on the board.
 $63 + 15 =$
♦ **Ask:** How would you show how to add the tens? (60 + 10) How would you show how to add the ones? (3 + 5) Have students show the numbers with blocks, add the tens (70), and add the ones (8). **Say:** Once you have found the sum of the tens and ones, what do you do? (Add the tens and ones together.) Write the partial sums and calculate the total sum. (78)
♦ Assign students the appropriate practice page(s) to support their understanding of the skill. Encourage students to model the addends, adding the tens, adding the ones, and writing the partial sums if necessary.

Assess the Skill
Use the following problems to pre-/post-assess students' understanding of the skill.
Solve.
 $22 + 47 =$ $53 + 14 =$ $67 + 12 =$ $81 + 16 =$ $34 + 55 =$
 $23 + 47 =$ $63 + 18 =$ $58 + 14 =$ $72 + 19 =$ $34 + 58 =$
 $23 + 47 + 11 =$ $63 + 12 + 20 =$ $48 + 14 + 32 + 25 =$

Common Core Standard(s)
covered in the unit


Mini-lesson introduces or refreshes target skills and concepts

Quick and easy ongoing assessment opportunities


- **Four practice pages** with three levels of differentiated practice, and word problems follow each mini-lesson.

Name _____ Unit 9 • Add Two-Digit Numbers


Find each sum.

1  $25 + 40 =$


tens	ones
2	5
4	0

2  $31 + 42 =$

tens	ones
3	1
4	2

3  $46 + 13 =$

tens	ones

4  $14 + 35 =$

tens	ones

5 $46 + 14 + 30 =$

tens	ones

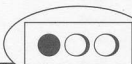
6 $66 + 12 + 21 =$

tens	ones

★ Tell how you add two-digit numbers.



Level 1: Students who need extra support can start at the first practice page, which offers the most on-page support. This page often includes illustrations or model drawing to support every question.



Level 2

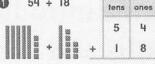



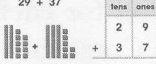

Level 2: The second level of practice offers streamlined support features for the first few problems (illustrations, model drawing, or an algorithm reminder for support).

Unit 1 • Add Two-Digit Numbers

Name _____

Find each sum.

1 $54 + 18$  

2 $29 + 37$  

3 $25 + 73$

4 $54 + 26$

5 $46 + 35$

6 $22 + 69$

7 $53 + 18 + 32$

8 $48 + 17 + 25$

when you have to regroup.

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Level 2



Level 3: The third practice page does not offer on-page support and depicts how students are expected to be able to perform at this grade level, whether in class or in testing.

Unit 1 • Add Two-Digit Numbers

Name _____

Find the sum.

1 $12 + 48 =$

2 $55 + 16 =$

3 $34 + 22 + 18 =$

4 $41 + 13 + 27 =$

5 $54 + 16 + 24 =$

6 $42 + 13 + 45 =$

7 $21 + 57 + 19 =$

8 $26 + 43 + 11 =$

9 $43 + 27 + 18 =$

10 $37 + 18 + 25 =$

★ Tell how you found the sum.

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Level 3



Each practice page includes a bonus thinking-skills question so students can answer "How do you know?" to address Common Core Standards of Mathematical Practice and demonstrate their reasoning and understanding of the concept.



Tell how you found the sum.

Bonus Thinking Skills question on each practice page

Word Problems: Each unit ends with a page of short answer and multiple-choice word problems so students are challenged to marry their computation skills with their quantitative-reasoning and problem-solving skills and grow more familiar with the types of problems they will encounter on standardized tests.

Word Problem Page

Unit 1 • Word Problems • Add Two-Digit Numbers

Name _____

Solve.

1 Last season Nina scored 17 goals. This season she scored 14 goals. How many goals has she scored in all?

2 Alex picked 41 apples. Sam picked 29 apples. How many apples did they pick in all?

Choose the correct answer for each problem.

3 Ryan has 14 marbles. Jaya has 25 marbles. Graham has 36 marbles. How many marbles do they have in all?

a) 74
b) 85
c) 65
d) 75

4 Ms. Eves has 22 students in her class. Mr. Jacobs has 25 students. Ms. Repo has 29 students. How many students are in all three classes?

a) 66
b) 76
c) 78
d) 86

30

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Common Core Standards Alignment Chart

Units	2.OA.1	2.OA.2	2.OA.3	2.OA.4	2.NBT.1	2.NBT.2	2.NBT.3	2.NBT.4	2.NBT.5	2.NBT.6	2.NBT.7	2.NBT.8	2.NBT.9	2.MD.1	2.MD.2	2.MD.3	2.MD.4	2.MD.5	2.MD.6	2.MD.7	2.MD.8	2.MD.9	2.MD.10	2.G.1	2.G.2	2.G.3
Operations & Algebraic Thinking																										
Unit 1: Add and Subtract Fact Families		✓																								
Unit 2: Write a Number Sentence	✓																									
Unit 3: Odd and Even			✓																							
Unit 4: Add Equal Groups				✓																						
Number & Operations in Base 10																										
Unit 5: Understand Place Value				✓																						
Unit 6: Count, Read, Write to 1,000					✓	✓																				
Unit 7: Compare Numbers							✓																			
Unit 8: Use Strategies to Add								✓																		
Unit 9: Add Two-Digit Numbers									✓																	
Unit 10: One Hundred More or Less										✓																
Unit 11: Add Three-Digit Numbers											✓															
Unit 12: Use Strategies to Subtract												✓														
Unit 13: Subtract Two-Digit Numbers									✓		✓															
Unit 14: Subtract Three-Digit Numbers											✓															
Measurement & Data																										
Unit 15: Inch, Foot, Yard														✓	✓	✓	✓									
Unit 16: Centimeter, Meter														✓	✓	✓	✓									
Unit 17: Add and Subtract Lengths																	✓	✓								
Unit 18: Tell Time (Nearest Five Min.)																			✓							
Unit 19: How Much Money?																				✓						
Unit 20: Make a Line Plot																					✓					
Unit 21: Make a Graph																						✓				
Geometry																										
Unit 22: Identify Shapes																								✓		
Unit 23: Parts of Shapes																									✓	✓

Unit 1

Addition and Subtraction Fact Families

Standard

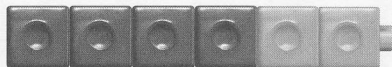
Operations & Algebraic Thinking

Add and subtract within 20.

2.OA.2. Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

Model the Skill

Hand out connecting cubes and model the following problem on the board.



- ◆ **Ask:** How many cubes do you see that are dark cubes? (4) How many lighter cubes are there? (2) Have students make a cube train with 4 cubes of one color and 2 cubes of another color. **Say:** The cubes show the addition fact $4 + 2 = 6$. Break the cube train into two colors. A related subtraction fact uses the same numbers as the addition fact. What related subtraction fact did you show? ($6 - 2 = 4$ or $6 - 4 = 2$) Have students record one of the facts.
- ◆ **Say:** Make a cube train for $5 + 3 = ?$. What is the total number of cubes? (8) Where do you write the total in a subtraction fact? (Possible answer: It is written first.) Observe as students break their cube train into two colors and record one of the related subtraction facts. ($8 - 3 = 5$ or $8 - 5 = 3$)
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

$3 + 1 = 4$
____ + ____ = ____
____ - ____ = ____
____ - ____ = ____

$2 + 6 = 8$
____ + ____ = ____
____ - ____ = ____
____ - ____ = ____

$6 + 5 = 11$
____ + ____ = ____
____ - ____ = ____
____ - ____ = ____

Unit 2

Write a Number Sentence

Standard

Operations & Algebraic Thinking

Represent and solve problems involving addition and subtraction.

2.OA.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Model the Skill

Hand out 10 counters of one color and 10 counters of another color to student pairs. Then write the following problem on the board.

There are 5 red apples and 3 green apples. How many apples are there in all?



- ◆ Invite a student to read aloud the problem. **Say:** *You can show a math story problem with objects or pictures. Today we will use counters. How many counters should we show to represent the red apples? (5) How many counters should we show to represent the green apples? (3) Have students use different colors for different color apples.*
- ◆ **Ask:** *What is the question asking us to find out? (how many apples there are all together) Do you add the groups or compare the groups to find out? (add) Observe as students put the groups together to find the total number of apples. Ask: What number sentence shows this problem? ($5 + 3 = 8$) Observe as students write a number sentence for the problem. Guide them to write the symbols in the circles and the numbers on the lines.*
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

There are 6 green apples and 3 yellow apples. How many apples do we have in all?

We eat 2 apples. How many apples are left?

Unit 3

Odd and Even

Standard

Operations & Algebraic Thinking

Work with equal groups of objects to gain foundations for multiplication.

2.OA.3. Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

Model the Skill

Hand out 10 connecting cubes to each student. Then draw or model a 5-cube train.



- ◆ **Ask:** *How many cubes are in this train? (5) Have students each make a cube train using 5 cubes. Ask: How many are in a pair? (2) To find out if your cube train has an odd or even number, you can pair the cubes. Guide them to break the train into pairs of cubes. To reinforce the cube pairs, have students draw a vertical line between every two cubes. Ask: Does every cube have a partner? (no) If there is a cube without a partner, it means that the number of cubes is odd.*
- ◆ **Say:** *Add 1 cube to the 5-cube train to make 6. Then break the train into cube pairs. Help students create their train and break it into 3 cube pairs. Ask: Does every cube have a partner? (yes) If every cube has a partner, it means that the number of cubes is even.*
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. Remind students to make pairs and that an item without a partner means that the number is odd.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Tell whether the number is odd or even.

2, 3, 5, 6, 7, 9, 12, 15, 16, 19, 20

Unit 4

Add Equal Groups

Standard

Operations & Algebraic Thinking

Work with equal groups of objects to gain foundations for multiplication.

2.OA.4. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Model the Skill

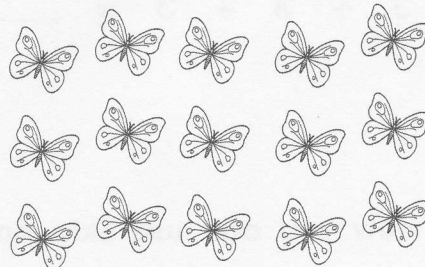
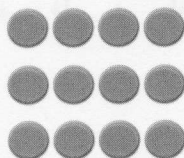
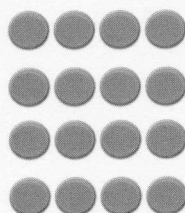
Hand out counters and draw a 3 x 2 array of circles on the board or on paper.

- ◆ **Say:** The arrangement of objects in equal rows and columns is called an array. This is an array. An array has columns and rows. A column goes up and down while a row goes across. Have students copy the array onto paper. **Say:** Place a counter on each circle in the first column (or color the column in). How many counters did you use? (2) Point out the number 3 at the bottom of the column. **Say:** Now place a counter on each circle in the next column. How many counters did you use? (3) Look at the addition sentence below the counters. What is 3 plus 3? (6) Observe as students write the sum of 6.
- ◆ Draw a 3 x 3 array. **Say:** The arrangement of objects in equal rows and columns is called an array. How is the first array different from this array? (Possible answer: It has one more column.) Place a counter on each circle in a column, or color in, and count how many counters are in each column. Check that students are placing counters in columns rather than rows. **Ask:** What is 3 plus 3 plus 3? (9) Is that the total number of counters you have used? (yes)
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. **Say:** You can use addition to find the total number of items in an array.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Ask students to use repeated addition to find the sum total for each array.



Unit 5

Understand Place Value

Standard

Number & Operations in Base Ten

Understand place value.

- 2.NBT.1.** Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:
- 2.NBT.1.a.** 100 can be thought of as a bundle of ten tens—called a “hundred.”
- 2.NBT.1.b.** The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

Model the Skill

Hand out base-ten blocks.

- ◆ **Say:** A number can be shown with base-ten blocks. Review with students that 10 ones equal 1 ten. Then show 10 tens. **Ask:** What number is shown with 10 tens? (100) Have students count the rods by tens up to 100. **Say:** Use blocks to show the number 123. How many hundreds do you use? (1) How many tens? (2) How many ones? (3)
- ◆ **Ask:** How do you show the number 200? (Possible answer: with 2 hundreds) Why are there no tens or ones shown in the chart? Write the number 300 on the board. **Ask:** Why are there zeros in the tens and ones places? (Possible answer: because there are no tens or ones in the number 300) Even though only 3 hundreds are needed to show the number, you need to write the zeros in the tens and ones places to indicate that no tens and ones are needed.
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problem to pre-/post-assess students' understanding of the skill.

	hundreds	tens	ones
407			

Unit 6

Count, Read, and Write Numbers to 1,000

Standard

Number & Operations in Base Ten

Understand place value.

2.NBT.2. Count within 1,000; skip count by 5s, 10s, and 100s.

2.NBT.3. Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.

Model the Skill

Hand out base-ten blocks and write the following on the board.

hundreds	tens	ones
2	6	5

265

_____ hundreds _____ tens _____ ones

Expanded Form: _____00 + _____0 + _____

- ◆ **Say:** Today we will show the same number in different ways. Read aloud the number on the board. (two hundred sixty-five) Show that number with base-ten blocks. Have students build the number with blocks. Guide them to write the number of hundreds, tens, and ones.
- ◆ **Say:** You can show a number as a sum of the hundreds, tens, and ones. Look at the third column. What would you write to show the numeral for 2 hundreds? (a 2 in front of the zeros) What do you need to write to show the numeral for 6 tens? (a 6 in front of the zero) What do you need to write to show the numeral for 5 ones? (a 5) Refer to all three columns to show the same number in different ways.
- ◆ Assign students the appropriate practice pages to support their understanding of the skill. Remind them that they need to write the zeros for the hundreds as well as the tens in the expanded form.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Write each number in standard, expanded, and word form.

721 582 490 817 968 101

Count by 5s from 600 to 650.

Count by 10s from 800 to 900.

Unit 7

Compare Numbers

Standard

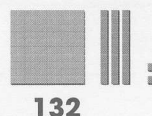
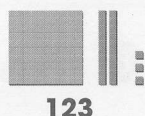
Number & Operations in Base Ten

Understand place value.

2.NBT.4. Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.

Model the Skill

Hand out base-ten blocks and write the following values on the board.



- ◆ **Say:** Let's compare these two numbers. Use your base-ten blocks to make each number. Show the numbers in separate locations. **Say:** First, you need to compare the greatest place—the hundreds. Does one number have more hundreds than the other? (no) Compare the next place—the tens. Does one number have more tens than the other? (Yes, 132 has more tens.) Point out that there is no need to compare the ones because they have already determined which number is greater. **Say:** 132 is greater than 123 and 123 is less than 132. Then practice another example with students.



- ◆ **Say:** Now compare 205 and 210. This group of 205 must be greater because it has more blocks. Am I right? (no) Why not? (Possible answer: Having more blocks doesn't mean the number is greater; you have to look at the values of the blocks.) 1 ten is equal to 10 ones. If you showed 210 with 2 hundreds and 10 ones, there would be more blocks. 210 is greater than 205 and 205 is less than 210.
- ◆ Assign students the appropriate activity page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Use place value to compare numbers. Write $<$, $>$, $=$.

354 ○ 364 732 ○ 732 923 ○ 629

Put these numbers in order of least to greatest in value.

402 539 413 699 960 331

Unit 8

Use Strategies to Add

Standard

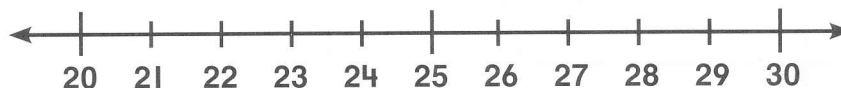
Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Model the Skill

Write the following number line and addition sentence on the board.



$$25 + 2 =$$

- ◆ **Say:** You can use different strategies to add. You can count on by 1, 2, or 3. A number line can help you. Have students use the number line to count on and find the addend. **Say:** You can draw two jumps to count 2 past 25. Show students how to draw a curved line from 25 to 26 and then from 26 to 27 to show two jumps. **Ask:** On what number did you land? (27) Then write another problem on the board.

$$27 + 3 =$$

- ◆ Have students look at the problem. **Ask:** What number will you circle on the number line? (27) How many jumps will you make? (3) What is 27 plus 3? (30)
- ◆ Assign students the appropriate activity page(s) to support their understanding of the skill. Remind students using number lines to circle the first addend and draw jumps to the right on the number line equal to the second addend.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Solve.

$$16 + 7 = \quad 37 + 8 = \quad 41 + 7 + 19 = \quad 83 + 6 + 14 =$$

Unit 9

Add Two-Digit Numbers

Standard

Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.

Model the Skill

Hand out base-ten blocks and write the following problem on the board.

$$41 + 26 =$$

- ◆ **Say:** Let's add these amounts by first joining the tens. How many tens are there in all? (6) What is $40 + 20$? Have students write the sum. (60) **Say:** Let's add the ones. How many ones are there in all? (7) What is $1 + 6$? Have students write the sum. (7) **Say:** Now add the sum of the tens and the sum of the ones. What is the total sum? (67) Then write another problem on the board.

$$63 + 15 =$$

- ◆ **Ask:** How would you show how to add the tens? ($60 + 10$) How would you show how to add the ones? ($3 + 5$) Have students show the numbers with blocks, add the tens (70), and add the ones (8). **Say:** Once you have found the sum of the tens and ones, what do you do? (Add the tens and ones together.) Write the partial sums and calculate the total sum. (78)
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. Encourage students to model the addends, adding the tens, adding the ones, and writing the partial sums if necessary.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Solve.

$22 + 47 =$	$53 + 14 =$	$67 + 12 =$	$81 + 16 =$	$34 + 55 =$
$23 + 47 =$	$63 + 18 =$	$58 + 14 =$	$72 + 19 =$	$34 + 58 =$
$23 + 47 + 11 =$	$63 + 12 + 20 =$	$48 + 14 + 32 + 25 =$		

Unit 10

One Hundred More, One Hundred Less

Standard

Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

2.NBT.8. Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.

Model the Skill

Hand out base-ten blocks and write the following problems on the board:

$$51 + 10 =$$

$$51 + 100 =$$

- ◆ Have students show 51 with their blocks. **Say:** *Add a ten. Now how many do you have?* (61) Have students return their blocks to showing 51. **Say:** *Now take away a ten. What number do the blocks show?* (41) Continue to practice adding and subtracting 10 from a given number.
- ◆ **Say:** *Today you will be adding one hundred to some numbers. What number are you adding to 51?* (100) Observe as students add a hundred to their blocks. **Ask:** *What number do your blocks show now?* (151) Have students write the sum. Then guide students to complete the other problems on the board.
- ◆ **Ask:** *What is the first addend in $162 + 100$?* (162) Observe as students show 1 hundred, 6 tens, and 2 ones blocks. **Ask:** *What are you adding to 162?* (100) *How do you show that?* (Possible answer: I place another hundred block.) *What is the sum of 162 and 100?* (262)
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

$$24 + 100 = \underline{\quad}$$

$$350 - 100 = \underline{\quad}$$

$$168 + 100 = \underline{\quad}$$

$$764 - 100 = \underline{\quad}$$

$$240 + 100 = \underline{\quad}$$

$$509 - 100 = \underline{\quad}$$

Unit 11

Add Three-Digit Numbers

Standard

Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

2.NBT.7. Add and subtract within 1,000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Model the Skill

Hand out base-ten blocks and write the following problem on the board.

$$162 + 135 =$$

- ◆ **Say:** Today we are going to add 2 three-digit numbers. A three-digit number has hundreds, tens, and ones. Ask students to show the two addends with blocks. Observe as students build the numbers. **Say:** Add the hundreds together. How many are there? (2) That means that 100 plus 100 is 200. Guide students to write that sum on a piece of paper. **Ask:** What amounts are we going to add next? (60 and 30) Guide students to join the tens and write 9 tens as 90. Then guide students to join the ones and write the sum on the page. (7) **Say:** Now add the three place-value sums. What is the total sum? (297) Then write another problem on the board.

$$237 + 125 =$$

- ◆ Have students show the addends in $237 + 125$. **Ask:** What is the first step? (Add the hundreds.) What is the sum? (300) What is the second step? (Add the tens.) What is the sum? (50) What is the third step? (Add the ones.) What is the sum? (12) Have students add the numbers together to find the total. (362)
- ◆ Assign the appropriate practice page(s) to support each student's understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

$$143 + 126 =$$

$$234 + 145 =$$

$$343 + 227 =$$

$$573 + 140 =$$

$$422 + 369 =$$

Unit 12

Use Strategies to Subtract

Standard

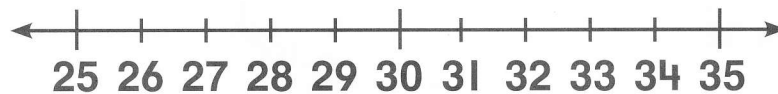
Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.

Model the Skill

Draw a number line on the board.



$$33 - 2 =$$

- ◆ **Say:** You can use different strategies to subtract. You can count back by 1, 2, or 3 on a number line. Have students look at the problem and circle the first number in the equation on the number line. **Say:** You can draw two jumps to count back 2 from 33. Show students how to draw a curved line from 33 to 32 and then to 31. Encourage students to count back aloud as they draw the jumps. **Ask:** On what number did you land? (31) Then write another problem on the board.

$$32 - 5 =$$

- ◆ Have students repeat with $32 - 5$. Observe as students draw the jumps and count back aloud. **Ask:** What are some other strategies we use when we subtract? Do we think about fact families? Do we use our understanding of place value? Encourage students to explain their different methods for subtraction problem solving.
- ◆ Assign the appropriate practice page(s) to support each student's understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

$$13 - 7 =$$

$$23 - 7 =$$

$$36 - 4 =$$

$$47 - 9 =$$

Unit 13

Subtract Two-Digit Numbers

Standard

Number & Operations in Base Ten

Use place value understanding and properties of operations to add and subtract.

2.NBT.5. Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

2.NBT.7. Add and subtract within 1,000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Model the Skill

Hand out base-ten blocks and write the following problem on the board.

$$28 - 16 =$$

- ◆ **Say:** *You can use base-ten blocks to model subtraction.* Have students look at the problem and note the subtraction sentence. **Say:** *The beginning number is 28. How do you show 28 with your blocks? (2 tens, 8 ones) The number sentence says that we need to subtract 16. How do you show that with the blocks? (Take away 1 ten and 6 ones.)* Guide students to model the subtraction. **Ask:** *What is left? (12)* Observe as students write the difference. Then write another problem on the board.

$$30 - 17 =$$

- ◆ **Ask:** *What are you going to show with your blocks to model the subtraction in this problem? (Possible answer: Show 3 tens). Can you take away 1 ten and 7 ones from 3 tens? (no) Show students how to trade 1 ten for 10 ones to show 30 in a different way.* **Say:** *Now you have some ones to take away. What is left? (1 ten, 3 ones; 13)*
- ◆ Assign the appropriate practice page(s) to support each student's understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

$$18 - 17 =$$

$$76 - 27 =$$

$$34 - 12 =$$

$$36 - 4 =$$

$$61 - 31 =$$

$$47 - 9 =$$

$$58 - 43 =$$

Unit 15

Inch, Foot, Yard

Standard

Measurement & Data

Measure and estimate lengths in standard units.

- 2.MD.1.** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.2.** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.MD.3.** Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.4.** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Model the Skill

Hand out inch rulers.

- ◆ Display an inch ruler, a yardstick, and a tape measure, and have students identify each object. **Say:** *These are three different tools that can measure the length of an object. Look at your ruler. What units does a ruler use to measure? (inches and feet) Discuss that a tape measure can also measure in inches and feet while a yardstick can measure in inches, feet, or yards.*
- ◆ **Say:** *When you measure an object, line up the zero mark of the ruler with one edge of the object you are measuring. If there is no zero mark, line up the end of the ruler with the edge of the object. Look to see which inch measurement is closest to the other end of the object. About how long is a typical white sheet of paper? (about 11 inches)*
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. Check that they line up the zero mark of the ruler with the left edge of the object and see which inch the other end of the object is closest to.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill. Have students use rulers to measure a variety of classroom items.

- Large paper clip—about 2 inches
- Ballpoint pen (with cap)—about 6 inches
- Stapler—about 7 inches
- Book or magazine—answers may vary

Unit 16

Centimeter, Meter

Standard

Measurement & Data

Measure and estimate lengths in standard units.

- 2.MD.1.** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.2.** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.MD.3.** Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.4.** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Model the Skill

Hand out centimeter rulers.

- ◆ Display a centimeter ruler and a meterstick. **Say:** *These are two different tools that can measure the length of an object in metric units. They look similar to the tools used to measure in customary units—inches, feet, and yards—except they measure in metric units. What are some metric units? (Possible answers: centimeters, meters, and millimeters) Discuss that a meterstick is the length of 100 centimeters.*
- ◆ **Say:** *When you measure an object, you need to make sure that you line up the zero mark of the ruler with one edge of the object you are measuring. Then look to see which centimeter measurement is closest to the other end of the object. About how long is a standard sheet of paper? (about 28 centimeters)*
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. Check that they line up the zero mark of the ruler with the left edge of the object and see which inch the other end of the object is closest to.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

- Large paper clip—about 5 centimeters
- Ballpoint pen (with cap)—about 15 centimeters
- Stapler—about 18 centimeters
- Book or magazine—answers may vary

Unit 17

Add and Subtract Lengths

Standard

Measurement & Data

Relate addition and subtraction to length.

- 2.MD.5.** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- 2.MD.6.** Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, . . . , and represent whole-number sums and differences within 100 on a number line diagram.

Model the Skill

Write the following word problem on the board.

Tom used 9 inches of gold wire and 3 inches of silver wire. How many inches of wire did he use in all?

- ◆ Hold up a ruler. **Ask:** *How is a number line like a ruler?* (Possible answer: They both show numbers in order that are equally spaced.) *You can use a number line to draw a picture for a word problem.*
- ◆ Read aloud the word problem. **Say:** *Tom used 9 inches of gold wire. The problem tells us that he also used 3 inches of silver wire. To find out how many inches of wire he used in all, we can add 3 inches to 9 inches. What is 9 plus 3?* (12)
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Susie used 40 centimeters of pink string and 60 centimeters of blue string to make a bracelet.

How many centimeters of string did she use in all?

How many more centimeters of blue string did she use than pink string?

Unit 18

Tell Time to the Nearest Five Minutes

Standard

Measurement & Data

Work with time and money.

2.MD.7. Tell and write time from analog and digital clocks to the nearest five minutes, using A.M. and P.M.

Model the Skill

Draw an analog clock that shows 10 o'clock.

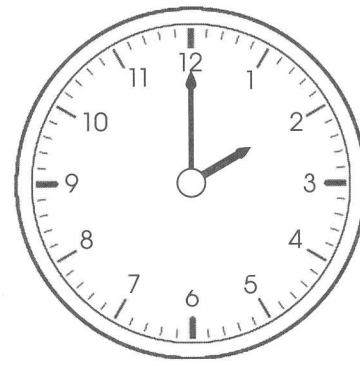
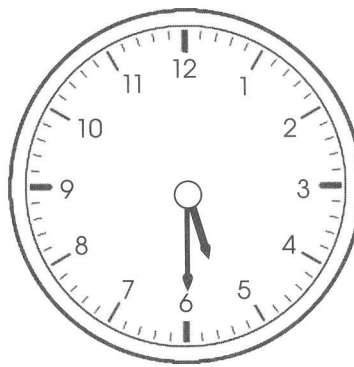
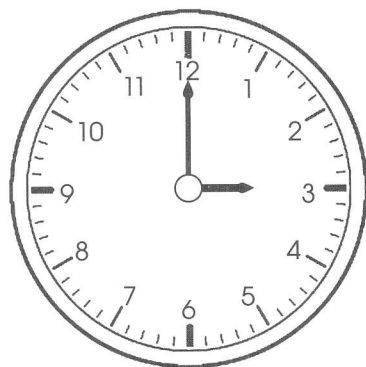
- ◆ **Say:** You can show the same time in more than one way. What time is shown on this clock? (10 o'clock) Write **10 o'clock** on the board. **Say:** There is another way to write **10 o'clock** with only numbers. Write **10:00**. **Say:** The numbers before the colon tell the hour and the numbers after the colon tell the minutes. Point out that 10:00 says hour 10 and zero minutes.

Draw an analog clock that shows 10:15.

- ◆ **Say:** Look at this clock. What time is shown on the digital clock? (10:15, or a quarter past ten) **Ask:** How do you know that it is 10:15?
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.



Unit 19

How Much Money?

Standard

Measurement & Data

Work with time and money.

2.MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.
Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Model the Skill

Show examples of several coins including pennies, nickels, dimes, and quarters.

- ◆ **Ask:** What types of coins do I have here? (quarters, dimes, nickels, and pennies) What is the value of each coin? (25 cents, 10 cents, 5 cents, and 1 cent) What is one dime and three pennies? (13 cents)
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.



Unit 20

Make a Line Plot

Standard

Measurement & Data

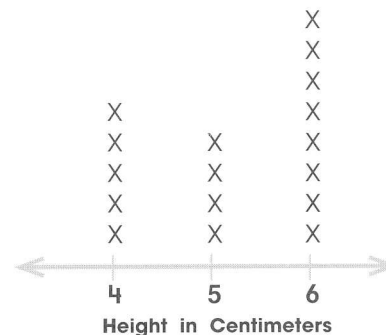
Represent and interpret data.

2.MD.9. Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.

Model the Skill

Draw this tally chart and corresponding line plot on the board.

Seedlings in Ms. Goya's Class	
Height in Centimeters	Number
4	
5	
6	



- ◆ **Say:** Data can be shown in charts and graphs. A line plot uses Xs to show data on a number line. What does this line plot show? (the heights of the seedlings in Ms. Goya's class) What are the different heights of the students? (4, 5, and 6 centimeters) Have students point to the scale that shows the heights and see the labels.
- ◆ **Say:** The Xs show how many seedlings are each height. How can you find the most common height of the seedlings in the class? (Look for the height that has the most Xs.) **Ask:** Which height has the most Xs? (6 centimeters) Most of the seedlings are 6 centimeters tall.
- ◆ **Ask:** How do you find the number of seedlings that are 4 centimeters tall? (Look for the 4 on the scale and count the number of Xs above it.) What number did you count? (5)
- ◆ Assign students the appropriate activity page(s) to support their understanding of the skill.

Assess the Skill

Ask students to measure each other's height and create a tally chart. Then ask them to use the height data to create a line plot.

Unit 21

Make a Graph

Standard

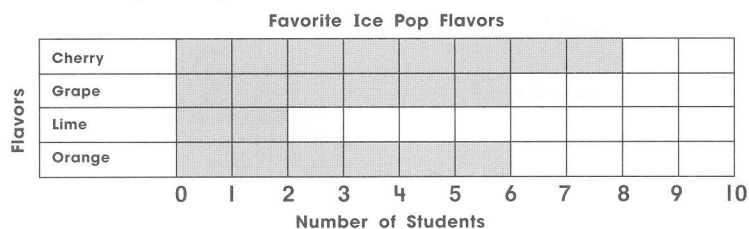
Measurement & Data

Represent and interpret data.

2.MD.10. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

Model the Skill

Draw the following bar graph.



- ◆ **Say:** *Graphs can be used to show data. What does the bar graph show? (Favorite Ice Pop Flavors) Have students look at the labels. **Say:** One axis tells us the different flavors and the other shows a scale of numbers. What are the flavors? (Cherry, Grape, Lime, and Orange) To solve the first problem, find out how many like cherry. Slide your finger on the bar labeled **Cherry** and then down to the number scale. The bar is at what number? (8) Repeat the process for grape. (6) **Say:** To find how many students like cherry and grape, add the numbers. Write the number sentence. **Ask:** How many students like cherry and grape ice pops? (14)*
- ◆ **Ask:** *What number are you going to subtract from 22 to find how many students like another flavor better than lime? (the number of students that like lime—2) Have students complete the number sentence to find the difference. ($22 - 2 = 20$)*
- ◆ *Now find the number of students that like orange and the number that like lime. Write a number sentence to compare the two amounts. (Answers: 6; 2; possible equation: $6 - 2 = 4$)*
- ◆ *Assign students the appropriate activity page(s) to support their understanding of the skill.*

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Ask students to make a survey of the class shoe sizes and make a graph that shows shoe size data.

Unit 22

Identify Shapes

Standard

Geometry

Reason with shapes and their attributes.

2.G.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Model the Skill

Hand out tangrams and cubes.

- ◆ Display models of triangles, quadrilaterals, pentagons, hexagons, and cubes. **Ask:** Which one of these shapes is most different from the other shapes? (a cube) Hold up a cube and explain that it is a three-dimensional shape while the other shapes are two-dimensional, or flat, shapes. **Ask:** How many flat sides, or faces, does a cube have? Have two volunteers work together to determine the number of faces. (6) **Ask:** What shape are the faces of a cube? (square)
- ◆ Hold up a triangle. **Say:** Use a blue crayon to trace the sides of the triangle. How many sides did you trace? (3) Allow tactile learners to touch the triangle models. **Say:** To count the angles, use a red crayon to make a mark on each angle. How many angles are there? (3) Explain to students that *tri-* means “three,” and a triangle is a shape with three angles.
- ◆ Have students trace and mark the sides of a quadrilateral. **Say:** Think about other words that you know that begin with *quad*. *Quad* means “four.” A quadrilateral has four sides and four angles. Point out various quadrilaterals including a square, a rectangle, a rhombus, a trapezoid, and other parallelograms.
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. Guide students to link the names of each shape to the number of sides and angles of each shape.

Assess the Skill

Have students pick up handfuls of tangram shapes and ask them to trace and name each one.

Unit 23

Parts of Shapes

Standard

Geometry

Reason with shapes and their attributes.

- 2.G.2.** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
- 2.G.3.** Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three-thirds, four-fourths. Recognize that equal shares of identical wholes need not have the same shape.

Model the Skill

Hand out a rectangular sheet of paper.

- ◆ **Say:** *Imagine that you and a friend both want to draw, but you have only one sheet of paper. What can you do so that you each have an equal share of the paper? (Answers will vary. Possible answer: Fold the paper in half and cut along the fold.)* Guide students to fold one sheet of paper in half, matching corners. **Say:** *Each share of the paper is the same size. The shares are equal. How is this paper divided? (into halves)* Have students draw a line down the fold to show two equal shares. **Say:** *Each half of the rectangle is one-half. Two halves are the same as one whole.*
- ◆ **Say:** *We can fold the paper again to make four equal shares.* Guide students to match corners, fold, and then open the paper to see the four sections. **Say:** *The paper shows fourths. Four-fourths are the same as one whole.* Guide students to draw lines on the new fold to show four equal shares.
- ◆ Assign students the appropriate practice page(s) to support their understanding of the skill. If necessary, have students fold another sheet of paper to see the equal shares for halves, fourths, and thirds.

Assess the Skill

Use the following problems to pre-/post-assess students' understanding of the skill.

Ask students to name the number of equal shares in each shape.

